Science Advisory Board of the Northwest Territories

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FISH, FUR AND GAME

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FISH, FUR AND GAME FOR THE FUTURE

A SUMMARY OF
PRESENTATIONS AND DISCUSSIONS
FROM A
CONFERENCE SPONSORED BY
THE SCIENCE ADVISORY BOARD
OF THE NORTHWEST TERRITORIES
YELLOWKNIFE, N.W.T.
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Fish, Fur and Game for the Future

Working Paper #4

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Preface

The Science Advisory Board of the Northwest Territories commissioned a series of papers to assemble and analyse knowledge about the fur, fish and game resources of the NWT. The primary aim of this review was to see if the resources were likely to be adequate to permit a growing population to continue their traditional way of life if they chose to do so. The secondary objective was to uncover gaps in our knowledge of these resources and to find out whether the available knowledge was adequate as a basis for intelligent management.

The first three reports dealt with Aquatic Resources in the NWT, Arctic Marine Mammals, and Management of some Terrestrial Mammals in the NWT. These then provided the basis for a single integrating paper called Fish, Fur and Game in the Northwest Territories which was presented by the SAB to the Legislative Assembly of the NWT in September, 1980. This paper served as the basis for the discussion at the present conference. As the report of the conference indicates, the discussion centred not on the data presented in the report but rather on its implications for the future of hunting, trapping and fishing in the Territories. The conference marked the end of the collection and analysis of information and the beginning of an attempt to share the conclusions of the study with the hunters and trappers who alone could convert the knowledge into effective action.

The people of Alaska have already grappled with similar problems of resource management and have achieved some success. We had the good fortune to induce some wise and articulate Alaskans to come and tell us of their experiences. At the conference banquet Dr. Robert Weeden of the University of Alaska talked about subsistence and politics in Alaska and during the sessions Jim Davis from Fairbanks described dramatic events of caribou management in Alaska. The basis for discussion was further broadened by contributions by Dr. Bjarne Clausen from Greenland, and Dr. Otto Schaefer who spoke on the importance of country foods on the basis of many years experience in the NWT. Dr. Winston Mair appeared as an elder statesman of wildlife management and administration and gave the conference the benefit of 30 years experience in the field.

No effort has been made to provide a verbatim transcript. The descriptions of the main presentations and of the discussions in each session are intended to give the flavour of the meeting rather than a comprehensive report. The three main papers are included as appendices.

As Winston Mair so clearly says, there is a long tradition of not always friendly opposition between biologists who practice wildlife management and the hunters and trappers who reap the harvest. At this meeting there seemed to be a genuine recognition that they were really pursuing one goal. This spirit can be summed up in two quotations. The first from Jim Bourque, President of the NWT Metis Association, "Government has to abandon the colonial type of operation that it has become accustomed to and we have to abandon the idea that caribou fall from the sky," and finally, Jim Davis who ended by saying, "What is good for the caribou or any other natural resource, is also good for the people in the long run."

The meeting ended on a note of optimism. Widespread involvement of the hunters and trappers in the process of game management should lead not only to increased availability of these renewable resources but also to an increasing recognition of subsistence as a lifestyle in the north.

O. M. Solandt
Chairman
Science Advisory Board

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Introduction

– Dr. W.A. Fuller
University of Alberta

"We must face up to the fact that there may not be enough game to go around in 20 years or so, even with good management."

We understand renewable resources to be those things that are alive and which renew themselves through a process of reproduction. Regarding game, even with good management, there may not be enough to support the needs of the population in 20 years. In the publication "Fish, Fur, and Game in the Northwest Territories," it is estimated that at our current rate of growth, the population of the NWT could be 100,000 by the end of the century and double again to 200,000 by 2026. Likewise, the Dene and Inuit populations could double to about 50,000 by 2001. This doubling of the population will place pressures on renewable resources because game species do not increase at the same rate as humans.

It is difficult to manage wildlife species as there are many factors which affecting their ability to sustain themselves; for example, fur prices, technology and food supplies. The management of caribou is particularly difficult.

From all current harvest estimates in the NWT, it is speculated that the amount of protein available is only twice the annual minimum human requirement. Thus, with current resources, the potential exists for only twice the 1976 population to be sustained by the land. We know that great potential for additional protein lies with fish but this is not and cannot be the only answer. For example, there is encouraging evidence from the Fort Providence buffalo herds that additional protein sources may be found there.

The need to discuss these issues and to examine solutions is great. The mandate of the Science Advisory Board provided us with one vehicle to do this.

Trapping and the Fur Industry

GETTING THE MOST FOR YOUR FUR

— Dave Unger
Edmonton Raw Fur Auction Ltd.

"How can you convince people in the cities that people are still dependent on the fur industry?"

The trapper is part of the natural cycle in that he acts as a predator to control wildlife species. Without the trapper, many areas would go unharvested and wildlife population would starve, become diseased, or become a nuisance. Without the trapper, the government would have to, at great expense, step in to control wildlife populations.

"Trapping is a difficult occupation but many of us depend on it." It is the responsibility of the fur industry and the government to support the efforts of trappers in the harvesting of wildlife populations. An important part of this support is an effective trapper education program. One goal of the program must be to teach trappers to produce a better product which will provide greater monetary return. A trapper education program was begun in Lac La Biche, Alberta, in 1975 and has increased returns to participants from 5 to 80%. These programs taught harvesters new trapping techniques and devices, as well as handling and marketing of furs.

Trappers must learn to meet the needs of the changing market. The market now demands uniformity of size, quality and colour. Skins must be prepared well and shaped properly. This, in conjunction with the needs of nature herself, makes the trapper a very important part of the ecosystem and of the fur industry.

THE NATIONAL AND INTERNATIONAL FUR MARKET

— Morris Soudak
President
Dominion-Soudak Fur Auction Sales Ltd.

"The fur industry is now in the hands of big factories."

"If I have 20,000 white fox for sale, I will have more buyers come than if I only have 5,000."

Over the past 10 years, the fur industry has experienced unprecedented prices. Industrialization appears to have caused a reversal of the supply and demand theory in that the more furs are available, the more demand there seems to be. Fur garments are now mass produced and manufacturers demand that furs have a uniform standard. These demands are being forced back to the producer. In order to meet these demands, the trapper must be aware of how the industry functions now and he must understand his role in it.

Fur has a monetary value because somewhere in the world there is a consumer who is ready to pay a price. The value of fur is directly related to the fashion industry as opposed to the need for warm clothing. Fashion trends dictate the demand for furs which the industry, if it is to be viable, must respond to. The producer is part of a chain that involves an auctioneer, skin dealer, manufacturer or wholesaler, a retailer, and then the customer. Each of these participants performs a certain function and each makes demands which the producer must be aware of. The greatest demand on the producer is the need for well-prepared pelts, both in terms of quality and quantity.

Theoretically, it is difficult to predict the future of the fur industry as it depends on economics and the fashion world. A theory that fashion revolves through a 30 year cycle suggests that we are in the middle of this cycle now. This would indicate that as long as designers are innovative with fur fashions, the outlook for the 80s is good. However, the future of the industry depends also on the resource itself. It is in no one's interest to overharvest fur resources. There are built-in checks that have allowed the industry to be one of the best conservationists. These checks have been developed and proven over 350 years of fur harvesting. They are 1) fur is valuable only on a seasonal basis and 2) laws and regulations prevent overharvesting. It is however, becoming increasingly more important that all participants in the industry take an active role in conserving these resources, not only for the sake of and furtherance of the industry, but also for the sake of the resource itself.

BIOLOGICAL ASPECTS OF SEALS AS FUR BEARERS IN THE NORTHWEST TERRITORIES

— Kerwin Finley
LGL Ltd.

Of the seal species in the Canadian Arctic, the ring seal has the greatest potential for fur harvesting, since it is the most widespread and abundant. In 1976, when seal skin prices were quite low, an estimated 50,000 ring seals were taken in the Canadian Arctic, not including those taken for domestic use. It is felt that the take has recently increased sharply in response to rising prices. This suggests that the ring seal population may be overharvested in certain areas, especially in the Cumberland Sound area where hunters must travel great distances to find seals.

It is estimated that there are about one million ring seals in the Canadian Arctic with a significantly large proportion of these being found in offshore pack ice. In the area from Pond Inlet to Cumberland Sound, it was estimated that there are some 50,000 ring seals available in solid ice areas and some 40,000 in offshore pack ice.

Distribution, movement and availability of food, predators, new hunting technology, and rising fur prices all affect seal populations. In 1974 in the Beaufort Sea, the seal population dropped from 42,000 to 22,000. This decrease had an impact on polar bear and arctic fox populations in the area, further illustrating the interdependence of wildlife species.

In addressing the issue of numbers of ring seals that are available to the hunter over a long period of time, it is necessary to consider all of these factors. It has been estimated that 7-8% of the current population of one million is available to the hunter. However, this estimate does not consider the effect of all these other factors on the seal population and so therefore is not entirely realistic.

In order to manage the seal populations, particularly the ring seal, it is necessary to constantly assess and research seal populations, to look at those areas that are underharvested, and to identify those areas that are overexploited.

EXCERPTS FROM PANEL DISCUSSIONS

Panel Members: Art Look, Roger Kuptana, and Fred Mandeville

Don Cadieux: "The biggest problem is confining yourself to one area and educating yourself to that area, instead of trying to educate everyone on the same principle."

Art Look: "Anyone can be a game manager as long as he has knowledge of the country and the game that is in it."

George Blondin: "One half of the population still has to live with hunting and trapping, don't care how many exploration, big mines or dams that come into the country."

René Lamothe: "If things were brought together under one umbrella, I think it would simplify things a lot."

Richard Cadieux: "Will the government ever recognize trapping as an alternative lifestyle and support it like the farmers?"

Jim Schaefer: "It cost me over $10,000 to get started and the assistance you can get from the Government of the Northwest Territories is $700. Then you have to pay this back before you can get another $700."

ISSUES

Resource Utilization

There are problems of underutilization. Many areas are not being trapped. These areas will become overpopulated with fur-bearing animals, the population will die off and take at least eight to ten years to recover. Introducing trappers to new areas can create more problems. You may not move into another area because of traditional land use. The answer is not just to move people around to underharvested areas but to educate people how to use their area properly.

Assistance Programs

In addition to the capital costs involved in trapping, the cost of relocating is very high. Studies should be done examining potential areas in the light of past food sources, fire, land use, start-up and operating costs. These cost breakdowns should then be related to funding currently available to trappers.

Assistance should be directed towards individuals as well as to Band Councils and Hunters and Trappers Associations. Incentive grants to hunters and trappers should be given out in the fall instead of at Christmastime because the money is needed in the fall for start-up.

There are hazards that people should not allow to undermine the foundation of the industry. With increasing monies and new technologies many areas may get saturated and cause new pressures on the resources and on the traditional users. This has been the case in northern Quebec.

Education

The Alberta Trapper Education program started with one group and relied on the participation of both experienced and inexperienced trappers. As the program expanded, it became more difficult to pull people off their traplines, so the course was taken to the community. Now there is more interest among trappers on the prairies and there are 4H trapper groups springing up. Programs have to be taken to the people and governments have to get more involved in promoting trapping, especially among young people.

The trapper education program that was started in Fort Smith faded out due to lack of money and follow-up. The main goal of trapper programs should be to bring trappers together to exchange ideas, not to have civil servants teach

them how to trap. This exchange encourages the growth of the industry and allows the trapper to maintain his individualized style of trapping.

Viability and Management

Unless governments recognize trapping as a viable lifestyle and support it as such, it will not survive. Assistance to the industry has been almost nil compared with assistance to agriculture. Agriculture is recognized as an essential industry because it supports urban populations. Trapping should be seen in the same way. Trapping has never been recognized as an essential way of life and any assistance given to trappers has been interpreted as welfare. The way society is now structured, everything is subsidized, so why not trapping?

With the high cost of living, and despite all kinds of non-renewable resource development, there will still be people living off the land. We need to have a long-term plan to manage our resources.

An umbrella organization should be set up to inform trappers about all of the monetary resources available to them. This organization should analyse the costs of developing various areas. Good programs need to be developed which really do support trappers.

Land use is a difficult issue to deal with. Unless this issue is resolved there is no security in developing a trapping area. There is more security associated with investments made in registered traplines.

Hunting

THE IMPORTANCE OF COUNTRY FOODS IN NORTHERN SOCIETY

— Dr. Otto Schaefer
Northern Medical Research Unit
Northern Health Service

"The local food somehow has what we need and certainly what Native people need."

In examining the value of country foods, we do not suggest that people go back to the Stone Age and live off the land, but rather that such foods be used to provide nutrition for the children of today and the future. Now is the time to manage wildlife populations and prepare for the time when there may not be enough country foods. It is necessary to begin to develop better and more systematic approaches to the harvesting and distribution of protein resources and stop the waste.

The value of country foods must not be underestimated. There is good evidence that imported foods contain less iron than country foods, (e.g., seal has 6 to 10 times as much iron in muscle tissue as does beef). In addition to their social and cultural value, there is a definite need to sustain high levels of iron and vitamin A in foods consumed by traditional northern populations in order to avoid deficiencies. Studies of Inuit miners at Nanisivik have provided evidence that Inuit people are prone to iron deficiencies when exposed to diets of imported foods.

Protein resources appear to be sufficient for the time being but given projected population increases, the demand for wildlife will outstrip the resources. This will occur even though birth rates have dropped among northern Native people.

Sea mammals provide one of the most important protein resources that we have. Despite increased technology but perhaps because of a fear of mercury poisoning, these resources have virtually gone untapped. It should be noted that there are no known cases of naturally caused mercury poisoning anywhere in the NWT.

HUNTING AND COUNTRY FOOD PROGRAMS IN GREENLAND

— Dr. Bjarne Clausen
State Veterinary Serum Lab
Copenhagen, Denmark

"In Greenland, current opinion is that the professional hunter should be supported."

The total population of Greenland is now 50,000. Of these, 40,000 were born in Greenland. Since 1975 the population, contrary to population projections, really hasn't increased at all. Also the population of hunters and their families has remained stable from 1930 through 1977.

There are professional and secondary (tourist and hobby) hunters, trappers, and fishermen in Greenland. In principle, everyone is allowed to hunt and fish all wildlife species. Quotas and seasonal restrictions are imposed on the harvesting of various wildlife species. Restrictions also exist to maintain a balance and to perpetuate traditional and professional hunters while at the same time allowing tourists and hobby harvesters access to game. For example, hunting from snow machines is not allowed in Greenland. Thus, generally, the laws that exist in Greenland for the management of wildlife species are adapted to both people and game.

Direct relationships exist between biologists and users in Greenland. Biologists are hired by local councils and they report directly to these councils. This relationship allows for more cooperation and a better use of knowledge among all people involved in wildlife management and harvesting.

Regarding Greenland's wildlife, the future appears bright since no species in the country is seen to be endangered in the near future. There is, however, concern for the tremendous variations in caribou populations. Fluctuating between 10,000 and 100,000, the caribou are now at a low point. High calf mortality is due to malnutrition. Nothing has been done to date, beyond the recommendation that harvesting be decreased, because local people have yet to commit themselves to any particular course of action.

There is no market hunting in the country if market hunting is described as having a distribution system to support it. Transportation limitations, small surpluses and the need to have food for dogs have confined hunting to the domestic realm only. Consequently, there are no country food stores.

In summary, the future of wildlife populations in Greenland is bright largely because the responsibility for the management of wildlife has been turned back to the people.

CARIBOU MANAGEMENT PROGRAMS IN ALASKA

— Dr. Jim Davis
Alaska Department of Fish and Game

"What is good for the caribou or the resource is good for the people."

In 1970 the caribou population in Alaska was about 500,000. In 1975, there were about 240,000 caribou in the state. This dramatic decline has been attributed largely to 1) the lack of human and material resources required to manage northern ungulate populations knowledgeably, 2) the relaxation of the wolf control programs, 3) poor allocation of resources between rural and urban users, and 4) the boom and bust situation surrounding the construction of the pipeline.

The biological reasons for the decline of the caribou populations can be understood by examining one of the 25 Alaska caribou herds. This herd is located in northwest Alaska amidst 30 Native villages that are heavily dependent on caribou and had no history of caribou harvesting restrictions. The caribou herd dropped from 240,000 in 1970 to about 100,000 in 1975. Mortality from people, wolves, and to a degree, bears had greatly outreached the ability of the caribou to sustain their numbers. In 1975, it was recognized that change was necessary to permit the herd to recover. However, nothing happened and by the end of 1976, the population of this herd had dropped to 75,000 with the domestic take continuing to be some 30,000 animals annually.

In order to deal with a problem, people must recognize that there is a problem. Following that recognition and a commitment by users, managers, various leaders and government bodies to control both human and other predators, the herd recovered from 75,000 in 1976 to about 140,000 in 1980. This recovery was facilitated by a natural decline in the wolf populations through disease. It should be noted that by not taking action in 1975, in reality three years were lost. If no action had been taken for two years, it would have taken six years to recover herds to 1975 levels.

There are many socio-economic factors that affect the harvesting of renewable resources. Users are and have to be recognized as an essential part of wildlife management. People often equate subsistence with sustenance; the latter meaning the consumption of country foods, the former being a lifestyle. Given the choice, users prefer subsistence because there is a pride involved in harvesting to provide for one's own needs. This has to be recognized and understood in all areas of wildlife management and also in the development of country food stores.

In summary, the lessons that can perhaps be learned from the Alaska caribou management experience are 1) decisions have to be made at the local level as much as possible, 2) timing is of the essence, 3) people have to face realities with constructive approaches, 4) the goal must be defined before acting, and 5) there must be a commitment for action from all people, both from government and the public.

EXCERPTS FROM PANEL DISCUSSIONS

Panel Members: Jessee Amos, George Edwards, and Philip Goulet.

Jessee Amos: "...don't buy from people who are just weekend hunters. They don't need the money...try to keep it down to people who need the income."

Kerwin Finley: "...weekend hunters are making a fast buck on wildlife."

Tagak Curley: "...recognize the exchange of country foods is important but we have problems with regulations."

Philip Goulet: "A lot of my people are hungry for caribou meat but they can't help themselves because the caribou are just too far away."

René Lamothe: "People should recognize that if a resource is necessary for the livelihood of a specific way of life, it shouldn't be used as a sport."

ISSUES

Market Hunting vs. Subsistence Hunting

Jessee Amos described the background which resulted in the development of the country food store run by the Committee for Original Peoples Entitlement (COPE) in Inuvik. This store was started in response to the constant demand for country foods in the area. Much of this demand was and continues to be from institutions such as hospitals and hostels. COPE cannot keep up with the demand for muktuk and cannot get reindeer meat, probably because it is being sold to Vancouver. Because of the overabundance of musk-ox, COPE and renewable resource personnel are seeking markets for musk-ox meat.

Concerns associated with the distribution of country foods were raised. It was agreed that the sale of NWT country foods should be restricted to the NWT.

Facilities should be made available in communities to promote the safe handling, packaging, and storage of country food. Strict guidelines have to be followed with regard to species that have commercial tags. Clarification regarding commercial tags and hunting is needed and the implications of this type of hunting have to be assessed. The selling of country foods should be restricted to full-time hunters who depend on the income.

It is necessary to constantly seek a balance between harvesting and marketing country foods.

There is a need to develop a market and a method of exchange for various country foods. Also the need to promote the preservation of hides, especially moose hides, for the betterment of the Native handicrafts industry is essential.

With regard to the impact of technology on country foods and wildlife populations, two examples are used. On Baffin Island in the 1950s, the take of wildlife was approximately 90% seals and 10% caribou. By 1976, when snow machines were common in Arctic Bay, the take was 80% caribou and 20% seal. The advent of technology and the fear of mercury poisoning in sea mammals has placed an almost unbearable pressure on land animals. In northern Quebec, after the James Bay land settlement, people were paid $2.00 per lb. for any country foods brought in. This, coupled with the availability of money and modern technology, resulted in overharvesting and the upsetting of the balance between traditional subistence hunters who have limited technology and weekend hunters who have money and technology.

Currently the Inuit Development Corporation (IDC) is looking at ways to balance and exchange country foods but has been having problems with wildlife regulations. IDC is attempting to establish a long-term plan by which this exchange could take place, as well as determining the support systems that will be necessary for its implementation.

Market Hunting vs. Sports Hunting

Concern was expressed regarding the scarcity of caribou around Fort McPherson and Yellowknife. If people want to get caribou they have to travel long distances by plane, truck or skidoo. It was questioned whether selling country foods was improving the ability of people and wildlife to sustain themselves or was it contributing to the deterioration of the resource? Extensive discussions are still required to determine whether sports hunting and the selling of country foods should be promoted.

It was noted that in Alaska few precedents have been set for the allocation of resources based on need and lifestyle, since allocations of this nature promote social divisiveness. It was also noted that in Alaska sports hunting accounts for some 1-2% of the total caribou harvest.

Biologists and Users

Is the work of the biologist and the researcher having a negative impact on the migration of caribou? Evidence shows there is little or no negative impact. However, parties involved will have to work to promote cooperation and understanding between biologists and users.

Fishing

FISHERIES POTENTIAL AND MANAGEMENT IN THE NORTHWEST TERRITORIES

— Peter McCart
Aquatic Environments Limited

"...ten times or more fish production per year per acre in the south than in the north."

Although there is a better food supply available in salt water than in fresh water in the north, low fish productivity generally can be attributed to a low concentration of nutrients in northern waters. Nutrient concentration is not necessarily due to low temperatures or long winters but rather the consequences of the following factors: slow rate of plant and animal breakdown, low nitrification, soil leaching, and an abundance of rocks.

People are fooled about fish productivity because, in the north, fish appear large and abundant. However, with a limited food supply, fish growth is so slow that once the larger fish are cropped off, there are only small fish left. Cropping off the largest of the female fish also causes another problem, in that it is these fish which produce the largest portion of the eggs. Thus, fisheries may be severely constrained by the limited food supply in the north. Severe restrictions and rotational fishing appear to be the only way for fisheries to survive in the north.

We must also realize that if two commercially viable species exist in the same lake, for example whitefish and trout, the fishing of one may adversely affect the other. Since lake trout recover at a slower rate than whitefish, it is possible that a population of trout could be wiped out in the fishing of whitefish.

In the study of aquatic resources in the north, the following recommendations were made with regard to the future of fisheries:
1) that preference continue to be given to domestic fisheries;
2) that a study of the potential for sports fishing be done;
3) that detailed statistics on catches be secured, especially on domestic catches; and
4) that strategies for commercial fishing continue to be developed.

FISHERIES PROGRAMS IN THE NORTHWEST TERRITORIES

— Ken Roberts
Fisheries and Oceans

"There are not many people going back into fishing; it is a tough job."

High freight costs have had a negative impact on the fishing industry. In the late 1940s up to 9 million pounds of fish were taken out of Great Slave Lake. Currently, the take is about 3 million pounds, made up of whitefish and trout. A quota for 3.7 million pounds of whitefish and trout is set for the lake.

The number of fishermen on the lake has decreased over the last 20 years. Presently, there are only 110-120 fishermen fishing the lake. Further, with the advent of technology and the costs involved in keeping equipment running, there are only 40-50 skiffs and 22 large boats on the lake.

In future, it appears that the need for a commercial fishery will continue but escalating prices for freight and equipment will make it even more difficult for commercial fishermen to sustain themselves. It is expected that with these pressures, sports fishing will become increasingly important.

MARKETS AND PRICES FOR NORTHWEST TERRITORIES FISH PRODUCTS

— Alex Drobot
Production Manager
Freshwater Fish Marketing Corporation

"Canadians have to be able to compete with both price and quality and this means finding better methods and new methods of fishing, processing, and marketing."

"The most serious problem facing fishermen, in all areas but especially in the north, is one major factor: that is the high cost of transportation."

The Freshwater Fish Marketing Corporation (FFMC) was set up in 1969 for the purpose of maximizing the return to the fishermen on the prairies and in the NWT. As with other fish marketing agencies in Canada, exports make up the biggest proportion of fish sales. The FFMC markets about 84% of its fish products outside of Canada to a largely institutionalized market. The United States buys more than half of the exports, with Europe and Japan buying 21% and 17% respectively. France is the largest buyer of northern pike while the Scandinavian countries buy much of the trout. Promotion

for the domestic market has brought little return. Thus, the domestic markets play a small role in the Canadian fishing industry.

The FFMC handled approximately 57 million pounds of fish in 1980 and brought in 37.5 million dollars (3.5% increase over 1979). However, it should be noted that of the total landings in Canada, the fresh water catches represent only 1.5%.

The outlook for the fisheries industry indicates that:
— the demand for fresh water fish will continue;
— there will be an increasing demand for mid-priced fish;
— the demand for whitefish will remain strong;
— the demand for char is strong but the market may be jeopardized by poorer quality Labrador char.

In addition, the main problems of marketing and competition are compounded by the high cost of transportation. Frequently, the price of getting a species to market outstrips the value of the product. Most provinces have provided freight subsidies or other forms of price support to the fisheries industry. Without this type of support, it is doubtful if the industry can survive.

EXCERPTS FROM PANEL DISCUSSIONS

Panel Members: Ollie Ittinuar, Titus Allooloo, Mike Kusugak, and Alex Morin

Alex Morin: "Every fish needs a market."

Titus Allooloo: "I think the regulations that are applied to the fishermen or the trappers or whatever, should be different for the east and west."

ISSUES

Regional

In Pond Inlet, there are no full-time fishermen, no commercial quotas, and no studies have been done to look at the potential for fisheries industries. There is only the sports fishing industry. People want to have studies to see whether sports or commercial fishery is best. It doesn't matter which it is as long as it is of benefit to the people.

In Rankin Inlet, commercial fishing had to be stopped because the rivers close to the community were getting fished out (Meladine and Diane Rivers) and domestic fishing was in jeopardy.

Fishermen are getting squeezed out of Great Slave Lake because of biologists and researchers, the imposition of quotas, inflation and the selective marketing of only whitefish and trout.

Marketing

There should be a market for rough fish — perhaps a cannery for making it into dog food. However, a mullet is still a mullet and a sucker is still a sucker and until these can be glamorized and made appealing to the consumer, there will be no market. Also, the cost of getting all fish, especially rough fish, to market, if there is one, is often more than the species itself is worth. Price support is needed to make the commercial fishing industry really viable.

Regulations

Quotas are hurting the fishermen.

There is need for inspectors in the eastern Arctic before fish (surplus) can be exported.

There should be different regulation for the east and for the west because conditions for the west are different from those of the Inuit.

Decisions should be made in the NWT, not in Ottawa and these decisions should be made in consultation with the users.

Facilities

Eastern communities and western Arctic communities need more facilities, such as freezers, to store fish products. In addition, the possibility of developing offshore fisheries, as in Greenland, should be explored.

Rough Fish

The impact of returning rough fish to water was questioned and discussed. It was generally concluded that these rough fish were not jeopardizing the commercially viable fish because many were killed before they were returned to the water.

Wildlife Management and Administration

WILDLIFE MANAGEMENT IN THE NORTHWEST TERRITORIES

— Jim Bourque
President
NWT Metis Association

"More responsibility has to go to the people and more onus has to go on the communities to make decisions..."

"The time is right, the time is now. We have to move now. We have to quit talking about it and move."

"Government has to abandon the colonial type of operation that it has become accustomed to and we have to abandon the idea that caribou fall from the sky."

"We have to come together to reach a happy medium for the sake of the caribou population and for the future of our children."

Wildlife management is basically non-existent in the NWT. There is really only management of polar bear and musk-ox, since no one really has a handle on the other species. The reasons for this are:

1) The population is largely Native and they have hunting and aboriginal rights which from a southern perspective, are hard to control.

2) We have a colonial government in the north which works from the top down.

Before any kind of meaningful management of wildlife resources can take place, the user and the managers have to get together and make decisions. Managers have to understand that the politics of the day are here to stay and community people have got to start to take a strong look at what is happening to their resources. Everyone should also understand that political groups can help in the process of bringing people together. If we do care about our future, the time is now to move and develop a good plan that will protect the future of both the people and the resources.

OBSERVATIONS ON WILDLIFE MANAGEMENT AND ADMINISTRATION

— Winston Mair
Chairman
Alaska Highway Pipeline Inquiry

"How can you manage animals if you can't control the land and water?"

"Biologists and users need one another. Neither is going to survive or get anywhere alone."

In the south, in an industrialized society, land use in traditional terms is seen as something rather immoral and something to be discouraged. In the north, there is a belief that renewable resources will not support the population, so industrialization has to take place if people are to survive. There is, however, a sense of a different approach being taken. Thus, a fundamental statement is that subsistence hunting, trapping, and fishing are legitimate, long-term, land (and water) use activities. However, in recognizing the legitimacy of this way of life, many things have to occur if it is going to happen.

A renewable resource based industry has to be managed in an intense and businesslike way that will allow it to get onto a firm footing so as to stimulate participants. It can be likened to the agriculture industry and people should learn from this. In that industry, many things are subsidized because a solid base of financing is required. The same should apply for the fur industry.

Attention must be paid to land use planning. A system of land allocation with rights and controls must occur because without control of land and water use, renewable resources cannot be controlled. There are many problems involved in terms of jurisdiction, but in the final analysis, it will come down to some form of local control.

There is a need to gather information on wildlife populations and their utilization. Throughout North America, wildlife agencies have never had any monetary resources unless there has been public pressure to finance these groups. It is important to get these resources in order to address such issues as wolf control and caribou quotas.

It is necessary to heed the many warnings learned from experience. If there is a problem go out and do something about it before extinction occurs. Tread carefully in deciding who has hunting rights and who has not, because the value of land contact may be high even for those people who are

earning a wage. Watch that organizations and committees set up for and by the user don't turn into a bureaucratic mess. Finally, watch that social and political divisiveness is not being perpetuated.

Communication between the biologist and the users is very important. There needs to be an exchange between all concerned groups. The agricultural extension program may provide a good model. There is also a need for trust and credibility. When everyone gets their house in order and sets goals, it will be easier to deal with each other and perhaps there will be a realization that things can go hand in hand.

Recommendations

The following recommendations were made by the participants of the "Fish, Fur and Game for the Future" conference organized by the Science Advisory Board. It is the wish of the conference participants that they be submitted to the Legislative Assembly for support and immediate action where appropriate.

1. It is recommended that hunting and trapping be recognized as a legitimate, long-term, viable land use activity in the NWT and that the Legislative Assembly take appropriate action to ensure a productive future for this way of life for those northerners who prefer it.

2. In recognition of the important role of caribou, and in response to the recent decline in caribou numbers, it is recommended that the Legislative Assembly find a means to reduce predation on caribou by hunters and wolves.

The following steps are recommended as a means of achieving this goal:

- Establish a committee now whose membership should include successful hunters and trappers as well as managers and biologists.

- An appropriate level of funding should be provided in order for this committee to hold consultations with the public, especially in those communities that depend on the Kaminuriak, Beverly and Bathurst caribou herds.

- This committee should report its findings to the Legislative Assembly at the fifth session of the Ninth Assembly and should make recommendations for action to ensure improved caribou management in the NWT for the long-term benefit of northern people.

3. It is recommended that all management and research decisions for our northern fisheries be made in the NWT.

4. In recognition of the nutritive, economic, and sociocultural importance of country food resources in the NWT, it is recommended that territorial and federal government agencies implement appropriate measures to promote the systematic and optimum use of country foods by assisting more effective harvesting, preservation, and distribution of these resources.

The following steps are recommended as a means of achieving this goal:

- education programs be developed by local and territorial institutions and agencies to promote the safety and nutritive value of country foods;

- assist the establishment of country food stores;

- the provision of adequate storage facilities for domestic and surplus supplies of fish and meat;

- active monitoring of wildlife populations to prevent overexploitation of these country food sources;

- the exports of country foods be regulated so as to ensure adequate supplies for local use;

- development of standards to ensure healthy slaughter, cleaning, preservation, and distribution of country foods;

- establish facilities for handling, storage, transport and intersettlement distribution of surplus country food.

5. It is recommended that regional organizations (based on linguistic and/or ecological relationships) be established to represent the interests of hunters and trappers. Through consultation with local hunters and trappers, regional and territorial wildlife managers and administrators, these organizations will advise and assist their membership on issues relating to:

- hunters' and trappers' assistance programs

- regulations affecting the harvesting of wildlife

- research into wildlife populations

- education and training programs for the public in general and for resource harvesters specifically.

It is further recommended that, as these organizations become established, more responsibility for allocating assistance funding, research programs, and the management of wildlife populations be turned over to them.

6. The Government of the Northwest Territories should subsidize freight rates on Arctic char and whitefish for export.



























Acknowledgements

The success of any conference is almost always the result of two factors: the enthusiasm and competence of the participants plus the organizational structure put in place by the sponsors. This conference summary attests to the quality of the former. Conference participants who, in many cases travelled great distances, all gave generously of their time and hence are to be thanked, since if the conference recommendations are implemented, it will be largely due to their efforts.

The latter factor, the organizational structure was the result of hard work by a diverse group of agencies and people. The bulk of the funding for the conference was provided jointly by the Northern Affairs Program and the Indian and Inuit Affairs Program of DIAND. The Hudson's Bay Company generously made the banquet possible. The space provided by the Prince of Wales Northern Heritage Centre and the food and refreshments supplied by the Native Women's Association combined to keep participants warm, full and usually good-humoured.

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Appendix I

SUBSISTENCE AND POLITICS IN ALASKA

— Dr. Robert Weeden

The following address was presented to participants at the conference banquet by Dr. Robert Weeden, an Alaskan who has long experience with northern wildlife issues. From 1959 to 1969 Dr. Weeden was a research biologist with the Alaska Department of Fish and Game. Since 1970 he has been Professor of Resource Management at the University of Alaska, and from that vantage point has both observed and participated in wildlife-related planning, most notably as head of the state government's Division of Policy Development and Planning.

I can't tell you how much I have enjoyed these few hours in Yellowknife. It's a wonderful cross section of people whom I have been able to listen to and talk with; people who are fellow hunters and fishermen who I hope are a lot more successful that I am generally in Alaska; people who trap; people who represent NWT people in the Legislative Assembly; members of the scientific community. I think that I can speak for Jim Davis, the other Alaskan in the crowd, when I say that we really appreciated the invitation that we received from you, Ben Hubert and the other hosts that we have here tonight.

There are a lot of things about Alaska that seem to me to be much like the NWT and there are quite a few things too that seem to be very different. One of the things that is different makes me feel unusually humble tonight. You know that Texans in the United States are always accused by other US citizens of boasting about the size of their state. When Alaska became a state, we sent a note to the Texas Governor saying that any time you get out of line, we'll divide Alaska in half and make you number three. Well, any time we Alaskans get out of line, you can divide the NWT into four parts and make us number five.

There are other things that are different. One is the force and effect of oil and gas development that is much more visible, I think, in Alaska than it has yet been in the NWT, or anything comparable that you have seen from mineral development. Another is a bit of geography. We are much more associated with the oceans than you are here. Although you have a huge area of coastline, it's all Arctic coastline and much of it is basically unreachable by ships of commerce, except for a very short period in late July and August. Much of the hinterland here is unreachable by roads and certainly unreachable by ocean except after a very long walk, whereas Alaska is very much associated with the ocean.

When the first non-Native people in recent history reached Alaska in about 1741, when Vitus Bering landed on Kayak Island, there were something like 75,000 people already in Alaska and almost all of those except perhaps 5,000 to 7,000 were on the coast. There were Tlingit Indian people in southeast Alaska where the trees are very tall and where salmon and deer were the mainstay of the subsistence hunters and fisherfolk. There were Aleut people all among the Aleutian chain, probably about 8,000 of them. There were Eskimo people beginning in the Bristol Bay area and going all the way around to meet your people in what is now the Yukon and NWT. Then in between a scattering of Athapascan Indians, interior people who, in only one or two places reached the coast. There were also settlements on the coast and, as in the NWT, in areas associated with caribou, moose, fur-bearing animals and seasonal waterfowl.

A lot has happened in a hundred years or so since southerners invading from various parts of the world decided that somehow they could stay and make a living in the north country. One of the first things that happened is that the Native Alaskan population went way down from 75,000 people to something like 25,000 in the 1920s and 30s as a result primarily of diseases brought in by non-Native people. At the same time the various gold rushes both for hard rock gold on the coast and for placer mining in the interior brought more people from the south, and perhaps even more than that, the knowledge of how to put salmon in cans and to keep them long enough to send them south, brought more and more people to the Territory. When the first cannery developed in 1880 and the next 100 developed in the next 30 years or so, there were many southern people who settled permanently in the state.

The population of Alaska, by the way, was less than 200,000 when I first came in 1956 and now, although we argue about what the census takers found — we think there are a lot more of us than they were able to find — there are somewhat just over 400,000 people.

The southern people never did wage what we now call war on Alaskan Natives, but they might as well have, from the standpoint that the Native people of Alaska were totally dominated politically and economically by people from the southern cultures. It wasn't until the late 1960s that Native people of Alaska began to assert their claims to land and resources. In 1971, as all of you know, the Alaskan Native Claims Settlement Act was passed which was in itself evidence of the political power. It increased their political power in at least two major ways. One is that it gave back to Native people of Alaska at least a small portion of the acreage that they claimed and used, about 44 million acres. Although that is only about 12% of the state of Alaska, it is a

very strategically located 12% because most of the land is close to the places that the Native people lived and naturally they lived in the places where the country food was the richest. So you find that Native people in that 44 million acres own a considerable share of the timber resources of the state, especially on the coast, and most of the easily accessible good hunting and fishing places. Because they were able to make some of their land selections from distant parts of the countryside, they were able to select some of the potential mineral, oil and gas areas. The corporations established by the Native Claims Settlement Act received title to the mineral estate as well as to the surface estate so that the 12 regional corporations are owners of minerals as well as all of the resources on the surface. The other thing that gave the Native people a big boost in their political power was the formation of these corporations. The corporations received a fairly considerable cash settlement amounting to about one billion dollars. With that money, most of which has now been paid, they have been able to make some very major investments. I recall going down to Hawaii this year and staying overnight in an inn called the "Pioneer Inn" in Lahaina, Maui, which is a famous old inn from whaling days. It is owned by Doyon Corporation, the interior Athapascan Indian profit-making corporation. This is just one example of the investments made all over the world. We hope wise investments are made by the people of Alaska.

The trouble is that at the same time Native Alaskans have been gaining some land and some power, there are increasingly more and more non-Alaskans. I think right now there are something like 75,000 Native people in the state and approximately 325 or 330 thousand non-Native people. So the balance of the vote is still with the urban centres of Fairbanks, Juneau, Sitka, Anchorage and Ketchikan with the non-Native population that dominates in those areas.

Oil money has also changed the scene in Alaska and as yet Native corporations are not owners of producing oil and gas properties. They may be in the future, but as yet the oil and gas production is coming entirely from state lands. This has meant that the state, as the owner of the resources, has been able to tax the profits from the resource and those taxes are now amounting to quite a lot of money. As you have undoubtedly heard, our surplus of income over expenditures last year was about five billion dollars. We spent about as much as we could think of spending and this year we have a lot more ideas of how to spend it. However, the surplus may be at five billion dollars this year even after all those bright ideas are gilded with money. It is thought that the various special funds, renewable resource loan funds, revolving funds and our so-called permanent fund — which I think has a parallel in the province of Alberta — probably will amount to somewhere in the order of 100 billion dollars over the next few years.

This means that the state of Alaska will grow in population, mainly non-Native population, at a very rapid rate, as that money is turned into jobs which attract people from the south. They are jobs in excess of those that our own people can fill or have the skills to fill or have the desire to fill because many of our people still don't want to move into town where most of the jobs are and will be.

So there are lots of changes going on in the state of Alaska. One of those changes certainly is the revolution in subsistence not only in what subsistence is in the actual sense of going out and gathering country food or gathering those materials which you can make into crafts and art objects and sell, those materials which you can barter or sell, but also in the political surroundings of subsistence and in the way that people think about subsistence. One of those changes is that not too many years ago, subsistence was thought by the non-Native population to be primarily an economic activity — that is, how people made their living when there weren't any jobs around. Almost forgotten was the importance of the entire ancient tradition and culture that surrounded subsistence taking of resources. Nowadays, even those people who do need subsistence resources at some times of the year and for many of their meals, do not consider subsistence as a purely economic activity; nor do the politicians in the state of Alaska.

Subsistence, I think, is now recognized more as an activity with extremely important, deep-seated feelings of the individual in relation to those resources. I'd like to remind people here, and I often have to remind myself, that as a geologist would think of time, it wasn't very long ago that these people that we call industrial society people, people from the south, myself, my wife, many of you here tonight, were also subsistence hunters and gatherers. I suppose that my tribe was somewhere in northern England. (I haven't yet gone over and asked the Queen for any land; she will probably say that I have enough in the state of Massachusetts.) But when I go out in the fall to gather berries or try to find a moose and when I realize that my three children grew up for the last 15 years in Alaska eating nothing but moose and caribou because I was able to find them, and when I realize what I feel when I set a net and catch some salmon or just simply go out and collect mushrooms, I realize that subsistence is definitely not an economic activity. An economist would tell me that I can't even afford subsistence, let alone need it.

In fact, my feelings towards that are very deep-seated. It's extremely important to me that I have some access to those resources. That is the main reason why I came north in the first place and the main reason, despite oil and gas developments, and despite changes in my home town in Fairbanks, that I want to stay.

Subsistence has been increasingly recognized in the legal sense in the state of Alaska. For quite a long time, the regulatory bodies that make the hunting and fishing rules in the state, the Board of Fish and the Board of Game, have recognized that there is a very different kind of need for regulations in that part of the state where the roads do not reach and where the people are dependent on the local resources. And so in an informal way, we have recognized subsistence as being a priority. However, since 1978 when the state legislature passed a so-called subsistence law, we have had a statutory basis for saying that among those uses of wildlife that require the killing of game and fish, subsistence uses have top priority. It's still up to the Boards of Fisheries and Game to decide when those priorities have to be expressed because if there is plenty to go around for everybody you don't have to worry about it. It is when the resources get short that you have to say who is number one and who is number two. The Board is now grappling with the question of how you decide when the resources are scarce, when total demand by hunters exceeds the ability of this hungry country to supply moose or caribou or salmon or pike or whitefish. We are also grappling with the question, suppose there isn't enough to go around for the subsistence users? In these days of guns and motors, of very high mobility, if all the Native people of Alaska were to decide to live off the land, there wouldn't be enough to go around. Fortunately or unfortunately, whichever way you want to look at it, many Natives have chosen not to pursue that kind of lifestyle so there is still enough in most places to go to the subsistence users. But we are realizing increasingly that resources can be scarce even for them, so we have to have systems that are as fair as we can possibly make them for deciding which subsistence users will take the animals when they become increasingly scarce.

The Federal Government has also recognized subsistence. On December 2, 1980, President Carter signed the Alaska National Lands Conservation Act (let's just call it the Alaska Lands Act) which put in writing for the first time the Federal Government's interest in subsistence as a priority use of Alaskan fish and wildlife. What the act does is to say that as long as the state in its management of subsistence resources satisfies the Native people and the Federal Government that they are doing the job as fairly as they can, then the Federal Government will stand back and let the state manage those resources. If there are complaints from the users of the resource, there is a way in which the users of the resource, with assistance from the Federal Government, can go to the courts to try to get the rules of the state of Alaska changed. If they cannot do that the Federal Government may overturn the state management program and impose its own. But for now the Federal Government is saying, we'll stand back and hope that the state can take care of it.

The Alaska Lands Act also has another important provision. As you probably know, the main purpose of that act was to establish close to 110 million acres of parks and wildlife refuges in the state of Alaska. Contrary to what is common in the other states, close to three quarters of Alaska's parks and refuges are open to subsistence hunting. At least half of that 110 million acres is open to sports hunting but only subsistence hunting is allowed in the large new national parks in Alaska.

A number of years ago, in 1972, the Federal Government passed the Marine Mammal Protection Act, which asserted the Federal Government's primary authority over marine mammals. But while it closed the hunting of marine mammals to all other Americans, it said that Alaskan Eskimos, Indians, and Aleuts could take marine mammals for traditional purposes not only to eat, but to barter and to sell handicraft items such as ivory from walrus. So in the last 10 years, subsistence has gained some recognition in the legal sense of the word. I'm not sure whether everyone is happy with this because one of the first things that lawmakers do is try to define everything regardless of how undefinable it is, and I feel personally that subsistence is fundamentally undefinable. Nevertheless, they had to draw some boundaries around it in legal words. I think we will find that Native people and non-Native people in Alaska will know more about the inside of courtrooms in the next 10 years than they have ever known in the past.

There are many conflicts and there is much distrust within or among the people of Alaska regarding subsistence. I think you can understand that, and from what I gather from listening today, some of that distrust and some of those problems and conflicts are shared here in the Territories. Certainly the Native people in Alaska have very fresh memories of the time that they were totally dominated politically and economically by the people from the south, and that memory is a foundation on which arguments and problems of the present can spring into major and sometimes even exaggerated importance. There are conflicts between the rural people and the city dwelling sports hunters who feel that they have the right to use federal and state public lands for hunting, as they do in all other parts of the United States. The sports hunters have had their way for a good many years. It is no surprise that now the subsistence people, who have more power today to influence access to fish and game resources than ever before, have begun to say: "Stay away; don't come into our country; fish and game are too scarce; there is only enough for us." You can imagine the response from the urban hunters who may have spent all their lives hunting freely in that country!

I don't pretend to know what the future of subsistence will be in the state of Alaska. One of the things that may be the cause of most of the uncertainty is how many of the Native people themselves will want to continue to use country

foods. I mentioned the Native corporations a little while ago. All Native people in Alaska are stockholders in profit-making corporations. Profit-making corporations try to make money. One of the ways that they try to make money is to develop mineral and oil and gas resources. We have learned a lot about how to use oil and gas and mineral resources without doing great damage directly to fish and wildlife and I hope we will learn a lot more. There is, however, a very deep-seated feeling among some rural people that they don't want their corporations to enter joint ventures with oil companies. They distrust the ability of people to scour the countryside with tracked vehicles and drill rigs and helicopters and still maintain fish and wildlife populations. And so we find that there is a growing conflict between certain subsistence orientated Alaskan people and their fellow stockholders in regional corporations who now live in fairly large towns, travel with what I call the global martini set, and make big investments with large amounts of money, all over the world. So the question of choice is confronting all of the Native people as individuals, as voters, and as members of profit- making corporations. Another big factor in this uncertainty is that although Alaskans like to think they have the power of self-government, we also are reminded every day that many of the big decisions affecting the state of Alaska (such as how many people will be there; where the pipelines will be built; how much money will be present in the state) are made in Houston or in London or Kuwait, or in some other part of the world. In some ways we have very little control over the nature and rate of economic development in our own state. And to the extent that we cannot maintain that control, to the extent that, in fact, we join forces with those who take control out of our hands, then certainly the future of subsistence is in real question.

I do know one thing. If Native persons, as I'm quite sure they do, have that deep feeling that comes from being able to put food on the table that you gathered by your own skill from the countryside, as long as that feeling is present in human beings, there will certainly be a great desire to preserve the opportunity for a subsistence or a semi-subsistence way of life. And the question is whether people who feel that way will maintain their power over political decisions not only to control the harvest and use of fish and game, but to control the uses of the countryside which affect the habitat for fish and game. That question of maintaining that political power is to me one of the most important ones that we in Alaska have to face at this moment.

Appendix II

CARIBOU MANAGEMENT IN ALASKA

— James Davis

Jim Davis has been a caribou research biologist with the Alaska Department of Fish and Game in Fairbanks from 1975 until the present. During that period he has devoted much of his time to the plight of the Western Arctic Herd, helping to establish the management regime which halted the herd's decline and initiated its recovery.

It is a real pleasure for me to be here, and I would like to thank the Science Advisory Board for inviting me. I have had the good occasion to be in Canada a few times in the past and one thing which has come to my attention is that even though we basically speak the same language, we have a few terms that sometimes have different connotations or meanings to people. Consequently, I will talk as plainly as I can and try not to beat around the bush. If I use any terms that mean something different to you folks, it is not intentional, and if I say anything that might be derogatory, it is not meant to be.

I will keep this presentation very informal and I look forward to the questions that might emanate from it. I think there may be more communication with that approach. I am going to be speaking as a biologist, and I am sure that will become quite apparent to the resource users when I get into the body of the text here. But I would like to add, I have been a biologist for more or less 15 years and I have been a hunter and trapper for at least twice that long. I don't plan to be a biologist for any longer than I have to. I hope to engage full-time in hunting, trapping, and fishing as soon as I see an easy way out.

Now about the caribou in Alaska. The bad news is that the caribou population in Alaska declined from about 500,000 in 1970 to about 240,000 by 1975, making about a 50% decline. Human use of caribou was significantly restricted, and there were lots of other social costs.

The goods news is that the caribou increased from 1975 to 1980 by about 42%, or from 240,000 to 340,000. Use by humans is now more liberal, and some social good has come from the communication between different groups during the conflicts and confrontations which accompanied the population changes. And all groups involved shared in a learning experience.

Getting into the why of the decline, there are some basic social reasons for it and some biological ones. From a philosophical point of view, many of the things that contributed to the decline, I believe, stemmed from the university training of many of our wildlife biologists in Alaska. When most had attended universities, the primary knowledge available about ungulate management was that from white-tailed deer in the lower 48 states.

One basic widely held concept, which I will greatly oversimplify here, is, "The more you shoot, the more you get." This was thought to occur because the animals harvested by man were ones that would have been lost to accidents, disease, predators or some other natural mortality cause. Also it was believed that by shooting lots of animals the survival rate of the others would be greater and those remaining would have more young that would have a better chance of living.

Although these concepts originated with white-tailed deer in areas where most large predators had been elimated, wildlife biologists unsuccessfully applied the same concepts to all northern members of the deer family such as caribou and moose during the past two or three decades. Another false assumption in this whole scenario was the belief that range, that is, food, limited all population of large ungulates in North America, almost without exception. I think again that was a false assumption in many cases as it applied to Alaskan caribou herds. I think another thing that contributed greatly to Alaskan caribou declines was not recognizing that predation was a major mortality factor. This occurred largely as a backlash from the persecution that the wolves had received in the early part of the century and through the 1950s. Many people — justifiably — wanted to preserve the wolf as an integral part of natural ecosystems, so they tried to educate or convince people, including wildlife students, that wolves had only beneficial impacts on other wildlife. This concept was very popular from the 1950s through the mid-1970s. Consequently, prior to 1975, few Alaskan biologists considered predation by wolves and other large carnivores as having a significant impact on caribou. Now we recognize that there is some intermediate truth involving the wolf. We have learned in recent years that the wolf can be a very important mortality factor on northern ungulates. By dismissing this fact or excluding this source of mortality in an equation of what is regulating northern ungulates, we are missing the boat by a mile.

Trying not to sound apologetic and trying not to make our biologists look totally at fault for the declines or totally without fault, there were some realities such as inadequate budgets and manpower that contributed significantly in the Alaskan caribou decline. For most practical purposes, before 1975 there were no biologists fully involved with the caribou, moose, or anything else north of the Yukon River, with the exception of marine mammals. The Yukon River roughly divided the state into northern and southern halves. This

northern half of the state was sort of a "no man's land" prior to the mid-1970s. There were relatively few people in the area, that is, relatively few in comparison to the more heavily populated southern urban centres. In conjunction with the above, prior to the mid-1970s, the Alaska Department of Fish and Game's philosophical approach to accommodate subsistence users, which dominated the northern part of the state, was that long seasons and liberal bag limits were warranted. It was reasoned that under such regulations few problems would come to the animal populations because of their general abundance and relatively light use by the human population. There were also some allocations of limited manpower and operating funds between the urban and rural areas that probably were not the best, in retrospect, using 20-20 hindsight. Construction of the Trans-Alaska Pipeline and the associated large-scale projects going on in Alaska in the early 70s caused what little effort that was being expended on caribou to be spent addressing developmental issues and not necessarily looking at the caribou populations in much of the state.

I would like to get back to the points that Drs. Fuller and Schaefer from Canada and Dr. Clausen from Greenland made about whether there is apt to be sustained growth or stabilization of the human population in NWT. In Alaska, we've actually experienced boom and bust changes in the human population, both in total numbers and in distribution. So I think it may be warranted to conclude that your human population may grow at a fairly conservative rate, stabilize, or not grow at all. But on the other hand, I think you should consider the possibility of population growth at a much greater rate than was discussed, namely, influx from the south — especially if some major development projects get off the ground.

Returning to the biological reasons of why the Alaskan caribou population declined, I think it might be just as well to concern ourselves with one specific herd because, with minor exceptions, most herds have basically done the same thing. That statement is a gross generalization and there are important exceptions. But it is not distorting the overall picture to say that what this population experienced is characteristic of most others.

The largest caribou population in Alaska up until 1975, and perhaps the largest caribou herd in North America, was what we call the Western Arctic Caribou Herd (WAH). Roughly, it inhabits the northwest quarter of Alaska and is one of about 25 caribou herds in the state.

There are roughly 30 Native villages in this region, and they are distributed mainly along the coast and beside major rivers to the south with very few interior villages. An exception is along a major river that flows west in the middle of the range of the herd. Most of the inhabitants are Indian and Eskimo, including several different tribes within the Eskimo population. These people had grown accustomed to relying very heavily on caribou. They had the good fortune of having an extremely large caribou population from the early 1930s through mid-1970s. There were at least a couple hundred thousand caribou in that region during most of that period. In part to accommodate subsistence needs, people could take all the caribou they wanted without any restriction during much of this time. So we had an entire generation of people, of resource users, who had only known great caribou abundance and no or little regulation in using the caribou resource. We also had an older generation that could remember some harder times slightly before that.

Also contributing in this scenario were some major happenings within the wolf population. Basically, the wolf populations were fairly large or increasing rapidly in most of Alaska beginning sometime in the 1960s. When Alaska became a state in 1959 most wolf control was eliminated, which contributed to these increases. Now, to make a long story short, the mortality of caribou from all predation collectively, from humans and wolves primarily, but also from brown bears and grizzly bears in some cases, just greatly out reached the ability of the caribou to sustain themselves both in this large herd and in any other herds throughout the state. This large herd when surveyed in 1970 contained 240,000 caribou and by 1975 contained only about 100,000 animals. Many people said, and they still say, there must have been a disease or something to account for the decline. They thought it was totally impossible for people and wolves to use that many caribou. In 1975 we made the hypothesis that people and wolves did in fact account for the change in numbers. Many scientists and biologists from around the country subsequently looked at the data, and at first some said it was totally impossible. However, now after spending some time analysing the data, they are generally in agreement that there is nothing surprising about it whatsoever.

So by 1975 we realized that we had a major problem. We had a user group that was taking on the order of about 25,000 to 30,000 caribou annually from the WAH herd. That was just the portion that was taken home and was counted in the harvest. In addition to that, with this great abundance of animals and a whole host of other things entering in, the harvesting of the animals had not been very efficient. A large number of animals were being killed but not utilized; they were being wasted.

In order to perpetuate this important caribou resource for the people and for the diversity of the animal life there also dependent upon the caribou, we thought that it was very important to enact some immediate changes. So in 1975, the population studies showed there was a very immediate need to make some changes because any delay at that point was going to be very costly in the amount of time that it would

take for the herd to recover to any higher population level. Also over the long term the amount of caribou that would be available for people and for greater and lesser carnivores, that is, fur bearers, to use would be greater, so the abundance and diversity of all wildlife would be increased over the long run.

Of course it wasn't very popular to tell people that some major cuts were necessary in their take of caribou, and the politicians didn't necessarily want to hear that either, so nothing happened for the first year. We went around and had many meetings in the villages, and people said we'd better make sure that the big decline was really the case. The population had gone from 240,000 in 1970 to 100,000 in 1975, and by the next year, 1976, it appeared that the caribou herd was down to about 65,000 or so. At that point, people could no longer deny a problem existed. That was one key thing we learned; in order to address any problem, first it has to be recognized that one exists.

Major restrictions on hunting were finally enacted. A wolf control program was initiated, but it was immediately challenged in court and a whole lot of things happened that are too involved to go over in detail here. Suffice it to say that for a number of reasons, including extremely heavy harvest of wolves in local areas by the local people, legal and illegal hunting of wolves from the air, some natural things including rabies and distemper, the wolf population was significantly reduced at this time. So after 1976 we had a dramatic decline in the wolf population in much of the range of the caribou herd, and in general the caribou hunters voluntarily complied with the regulations. I'm sure many of the hunters complied because a good portion of them recognized that it was in their long-term interest to allow the caribou to rapidly recover. A full commitment from the entire state of Alaska also contributed to success. All levels of government were committed to solving the problem including biologists, wildlife protection people, the Governor's office, people in health and welfare roles, and so on and so forth. There was a total commitment in addressing the issue, and I think that was one of the major reasons why it was as successful as it has been.

So what did we accomplish from all this? The population increased to the point that in July 1980 there were at least roughly 140,000 caribou; we are still analysing the data. We are proposing much more liberal use of the caribou, and the wolf population in local areas is beginning to increase. So in a four year period of making some concessions, we gained a lot of ground.

Reviewing the specifics, in 1975 there were 100,000 caribou and we didn't do anything; in 1976 there were 65,000 or 75,000 caribou. After that, we really tightened up for 3 years, and by 1979 we were back to our 1975 level. So by wasting 1 year by not acting, we lost 3 years in reality. If we had waited an additional year and not taken action for 2 years, it would have take 6 years to get back to where we were in 1975. So the second big thing we learned was that if there is a problem that needs addressing, procrastinating, putting it off is going to get you nowhere.

There were a number of social and economic costs involved in the program enacted to turn the caribou population around. There were some very serious emotional or psychological impacts on the human users of the caribou. Rural people found that their lifestyle was being threatened, and justifiably so.

But throughout the whole process we tried to have as much public contact as we could, and we emphasized time and time again that what was good for the resource was good for the people in the long haul, and even in the shorter haul that people living today would benefit by making some immediate concessions. We didn't have to consider their children or grandchildren to show benefit from reducing harvest of the caribou, because people directly involved were also going to benefit. Through this contact there was some give and take, and I think some real healthy dialogue; we all became better acquainted with one another and what we each thought were important values. It was the first time ever that many of the prominent politicians and administrators got out into the smaller communities. People from the bush had never met these people; maybe they had heard their names on the radio or seen them in the newspaper, or someone had talked about them, but now they actually had contact with them. They began to feel that they really were, or could be, a part of the process that was making the rules and regulations under which they lived. That has been a very healthy, positive aspect of addressing this problem and it is continuing to the present. Admittedly, there were growth pains all along the way for all parties involved, but overall it has been healthy.

I am not going to go too much further here. One thing I would like to comment on involves the observations that other speakers related about emotional and psychological impacts on resource users. I've heard quite a bit of discussion here about the ability or the desirability of different mechanisms for redistributing country foods for the well-being of the users. I think that making these products available is very desirable. I think that those products should be available for individuals to use, but it became very apparent to us in our contacts with local people during the Western Arctic Caribou Herd problem that many of us who have come from the south into the north equated, at some point, subsistence with sustenance. We thought that a person who was living a subsistence lifestyle was just knocking at the door of being without proper sustenance, or simply that sustenance was all that was involved and thus was iden-

tical to subsistence. But it became very apparent that in this day and age with all of the options that people have, subsistence is more of a lifestyle with hunters *hunting* and not just hunters *eating* traditional foods. I don't want to say that we have to have one situation or the other, but given the choice, many of our hunters would prefer the option of a little bit of support to go somewhere to hunt rather than the assurance of someone giving them native country foods. In other words, it is important for hunters to hunt. I think this idea may undermine some programs that are totally geared to distributing native foods.

For example, during our Western Arctic caribou problem, we had a huge, huge surplus of walrus meat and a caribou herd that was declining and restrictions on the caribou harvest were necessary. Even so there was little interest from most of the villagers to receive the surplus walrus meat. In part it wasn't traditional for many of the inland villages, but even more so, people didn't want someone to give them their meat. They wanted to hunt it themselves, so there you have a Catch-22. At times we must restrict the harvest of certain species in certain areas, and we feel the hardships can be minimized by redistributing surpluses, but there are also problems in the distribution of surpluses.

I'll try to summarize by mentioning a few things here that are obvious and apparent to all of us and come under the category of what universal conclusions from Alaska can apply to situations here. By no means do I want to suggest that we from Alaska know more about your business than you do, and that leads to one conclusion. Decisions, as much as possible depending upon how a system is set up and administered, should come from the local level. The local level does not necessarily mean any given village. It might mean the territorial level vs. Ottawa; it might mean a district or regional level as opposed to Yellowknife or whatever. But I think it is something worth considering.

Another conclusion that I want to reiterate is that time is of the essence. If you have a problem, address it now. Things are not going to get better. Dr. Fuller made the observation in his opening remarks that people have many excuses for not facing unpleasant realities and that idea kept coming home to us almost daily in the process of trying to turn the Western Arctic caribou situation around. The first big gain we made was when people finally admitted that here was a problem that needed addressing. Another lesson is that parties shouldn't be trying to blame what happened on one another. Take a constructive approach; learn from what contributed to the problem but decide what must be done to make things better and get together.

Another very important thing is that we must have a goal before we know what course of action is appropriate. Someone may come to me and say, "How did you get more caribou in Alaska?" As a generalization, I say, "We reduced human harvesting of the caribou, we actively controlled wolves, and nature helped us out in reducing wolves." However, that doesn't mean that is the best thing to do everywhere. It may not be desirable or necessary to reduce harvest or predation if your goal isn't to optimize the offtake from the resource.

Minister Nerysoo said that we must address the problem here in Canada. If you can get that sort of commitment from your political leaders, you're saving a couple of years and that's for sure. The biggest gains we made in Alaska in addressing our caribou problem was when we were able to have some of the local Native leaders recognize the situation and realize that it was of mutual benefit to them and their constituents to address the problem. We had one influential man say publicly, "The resource is more important to us than to anyone else and we must maintain it." That simple statement made a difference like between night and day in trying to do something constructive. Another Native leader was publicly quoted as saying, "We have some problems and we must address them." Those little short commitments made all the difference in the world to the biologists struggling to make the people realize that a problem was there.

As a closing comment, I will say to everyone involved that what is good for the caribou, or any other natural resource, is also good for the people in the long run.

Appendix III

OBSERVATIONS ON WILDLIFE MANAGEMENT AND ADMINISTRATION

— Winston Mair

Presently a consultant specializing in the environment, land use and Indian socio-economic development, Mr. Mair has a broad background in wildlife administration. Since beginning his career in 1931 with the British Columbia Game Department he has held senior positions with the Canadian Wildlife Service, the National Parks Service, Manitoba Department of Mines, Resources and Environmental Management, and the Department of Regional Economic Expansion. In 1980, Mr. Mair served as presiding officer during the Northern Pipeline Agency's hearings in British Columbia respecting terms and conditions for the Alaska Highway Gas Pipeline.

It is mandatory to say that I am glad I was invited, but in my case I can say this with a clear conscience. I have spent the last 30 years attempting to deal with this same series of problems that you have been trying to grapple with. The things that I have been hearing over the last two and a half days are the same things that I have been hearing for the last 30 years, which should suggest that we have been notably unsuccessful in finding solutions. But it is good to be with you again at this point because I sense something rather different than I remember previously. I sense a whole new feeling and a whole new approach to those problems on the part of the users, and I sense a new approach from the game managers. So I am encouraged even though we haven't managed to get very far in the past. I really feel that something is going to happen, and I hope that the momentum that will be built up from this particular meeting won't get dissipated somewhere along the way over the next little while.

You will not hear anything from me that you haven't already heard. I had written some observations and thoughts on Sunday and I have had no occasion, listening here, to change those. I have heard them over and over again, spoken in a much better way than I can relate them to you now. However, I think that, hope that, the points that I make can bear repeating once again and will not be considered repetitious.

The first point is one that was raised on Monday, and I have not heard it raised since then. I'm not sure if it is something that is taken for granted but I think it is something, especially for my own thought processes, that should be repeated. The question was posed, "Do we see subsistence hunting and trapping as a form of welfare to give people something to do, and hopefully they will eventually find something useful to do? Or do we see it as a legitimate, long-term, land use activity?" It is pretty fundamental to the discussion that has been going on, and where you are going to go in the future with your resolutions. It seems to me that what you are saying and what I believe should be said, is that subsistence hunting, trapping, and the taking of country foods are legitimate land uses and are something that we want to see continued.

You may wonder why it is that we have so much trouble with that particular philosophy. In the south, where much of the wildlife management mystique, if you will, has been developed, we are dealing largely with sports hunters — people who live within an industrial society. There was a feeling abroad for many years that if you spent your time fishing for part of the year, trapping for part of the year, or hunting for part of the year, there was something immoral about this; that it really wasn't the proper thing to be doing. Consequently, it was something to be discouraged. The other point, I believe, in respect to the north, is that there was, early on, the belief that renewable resources could not support the growing populations of the north. Consequently, we had to make whatever efforts we could to provide alternative opportunities and jobs. Living off the land was just a passing phase and everyone was going to move happily into the industrial economy one way or another. We tried that with the farming communities some years back, with people who were on subsistence farms or farms that were just barely economic. Much to the astonishment of the experts, we discovered that people didn't want to move off those farms; they kind of liked them. They liked being their own person even if they didn't make a lot of money. So I think we have learned quite a bit. Certainly from what I've been listening to here I don't have any problems; if we have a resource base, if we believe this, we can proceed from there.

My second point is that we're looking at a continuing form of land and water use; then why don't we get with it and start managing the land and water in a positive fashion, probably in an intensive fashion? Again, to understand we have but to look at the history from the south where we are dealing with sports fishermen and sports hunters. There, if you manage too intensively, it supposedly takes the pleasure out of the activity. Consequently, we have shied away from intensive management. For example, when they talked about having game farms, pheasant farms, and so on, it was resisted for years and years. Fish farms were resisted for years because it was unsporting and not the kind of thing to do. We have managed to get by that pretty much now but we still have a hangover from it of pussy footing around when it gets right down to intensive management. So, in the north, why don't we manage more intensively and why don't we manage in a businesslike way? We can learn a lot from the agricultural industry though one shouldn't draw the parallels too far. Do

we ask ourselves if the range or habitat could be improved in water or land? Are there more economic ways of harvesting and taking resources? There are some appropriate technologies — I think that is the term — and we haven't by any means exploited the potential for developing new technologies. Are there technologies that can be adapted to the northern scene? If we are really serious about this business, then we should be exploring these things. Obviously, there are priorities and I'm just running through some of these points by way of example.

If we are going to manage and manage fairly intensely, and start putting in tough regulations and all the rest of it, we've got to start taking the appropriate steps. Dr. Fred Roots said to me earlier that one of his professors made a comment many years ago: "If you are going to play God, you can't go half way." So what I'm saying is that if you really are going to manage the resources and get into it intensively, you'd better be prepared to go the distance on it and get money and so on. You can't do part of the job and neglect the rest of it, and expect it all to work out. Among the rest of it you have to have a solid base of financing. One of the things for which the rationale has always escaped me over the years, is why we are prepared to provide support prices or subsidies for almost every activity in Canada, except, for instance, the fur industry. I've asked the question over and over again, "Why don't we have a basic (floor) price for fur so it is possible for the trapper who has a substantial capital investment in his business to survive?" I've never had a satisfactory answer. I know that it is very complicated, because you are getting into all kinds of market problems. But if we can solve those problems with other industries and other resources, why not with the fur industry?

In some provinces, where they have purple gas for primary resource people and industries, they get gas with substantial amounts of tax taken off. It is only recently that they have afforded this same privilege to trappers. Skidoos are just as important to a trapper as a truck or bulldozer is to a logging operation. It is these kinds of inconsistencies that bother me and I really believe it is because we have never gotten our act together, never really made our case, that we continue to have many problems.

It was mentioned earlier that we can and should harvest some more areas. That problem has been with us for at least 30 years that I have been associated with the business, but I don't have the answers. I do believe, however, that if we could get the fur industry, the trapping industry, on some more reasonable footing you'd have a better chance of getting more young people to enter the business and see it as a decent way of earning a livelihood. Also, some of the existing trappers would be able to get out farther into some of these areas.

My next point is that if you are going to get into this in a more intensive way then you have to start to do some land use planning. That was mentioned on Monday, the very first day. Someone said, "If we are supporting continued harvest of the land, why don't we do some planning?" I'm not going to take this very far because we could spend all afternoon. But I do want to make one point. I recognize the split-jurisdiction responsibilities that relate to land and resources in the NWT and I don't want to get into that argument. I'm simply going to state that I don't see any way that you can hope to manage the renewable resources of the NWT successfully until that divided jurisdiction is resolved one way or another. How can you manage the animals if you can't control the land and water? How can you manage some and not others? How that is going to be worked out, by some sort of agreement or legislation, or whatever, is not my task to resolve this afternoon. But let's not kid ourselves that you can manage renewable resources unless you can control the land and the water and the things on them. It is just not, in my opinion, possible.

Now there are some problems that are associated with intensive management and/or the commercial approach to hunting and fishing. Trapping of course is already a commercial enterprise. And we already learned from it that if trappers are going to operate properly, and are going to put some improvements into their equipment and so on, they have to have some security on the trapline. If they don't own the land they have to at least have some proprietary rights. The way we get around that all over the country is to have registered traplines. In some areas you have group traplines or areas where only a certain number of people are entitled to trap. You know the history, I'm certain, of the fur industry as well as I do and how traplines were cleaned out. One fellow tried to leave some breeding stock and handle his line properly and some other fellow came in and cleaned out the whole thing. This went on and on until we were forced to have some system of allocation. If you're going to get into intensive management of the wildlife and into commercial activities, you are going to have to develop some system of allocation, of rights and control.

Bill Fuller mentioned this problem this morning with a group — the problem of common property resources. It has plagued wildlife and fisheries managers in the south over the years and they still don't have many solutions. You are dealing with something that belongs to everyone and if everyone goes out and competes and takes as much as he can, there soon won't be anything left to take; it will all disappear. It is a basic fact that you have to face up to and if you're getting into intensive management, there is going to be some system of allocation worked out. Probably it will come down in the final analysis to some form of local control. I was interested to hear Jessee Amos, when she was mentioning her activities in the Delta area, say that people get angry at her

because she will buy from one person but not from another because "I don't think you should be selling; you don't need the money." It is excellent. I would like to think that it could work but it gets tougher and tougher when you get closer to the crunch with resources. Everyone is going to get mad at everyone unless you work out some system of allocation. So it is something that you just have to grapple with.

My next point is if you are going to harvest and manage intensively, you have to have adequate information. If you operate too close to the limit, the population is probably going to be overharvested and the population will go down. If you harvest too far below the limit, you are obviously not making the best use of resources. Again, if we go back to sports hunting, because those hunters are supposed to be interested in the recreational experience you can have fairly low limits, you can keep the take down. But there always is the pressure to raise limits and consequently pressure for more inventory, more data. Quite clearly you are going to have those problems right from the onset. You are going to have to have the information for hard management and that is going to cost money.

There isn't any way that management data can be obtained on the cheap; there is no easy way. It is a very complex thing and you have to have money. A comment was made the other day that the wildlife agencies in the NWT always have been sucking the hind tit financially. That has been the history of wildlife agencies everywhere in North America. The only way they got to the point where they were even starting to be properly financed was when there was sufficient public pressure. With sports hunting, the sportsman put the pressure on. There were various techniques developed for special tax revenues, but those taxes didn't even get on without public support and pressure. So you are going to have to be organized, to make it quite clear what the priorities are. And there is going to have to be money for your wildlife management.

There are many other things that you are going to have to have besides just the inventory and data collection. I won't go into those but I would like to comment about caribou because they have featured prominently in the discussions. As has been said, if you harvest over the limit, down goes your population. If you operate too close to the limit, the populations, in some situations at least, are going to go down. When they start to go down, they really go down and they require drastic action. Some examples have been discussed at this meeting. Clearly, you are going to have to decide that there is a problem. It was mentioned by someone at this meeting that you can't solve a problem if you don't know what it is. First you have to identify the problem, admit it is a problem and then do something about it. Hopefully you are well along on that route but you mustn't let up on it. There will have to be some less caribou taken; there will have to be quotas. You'll have to be tough and there really is no easy way about it.

Now I didn't hear much about wolf control. I was surprised because it is a very popular action to take, and one that I believe should be taken. I'm a little reluctant, in one sense, to talk about it because as I think Bill Fuller said, we are always looking for an excuse to see if we can blame problems on something or someone else. There is always a tendency to put all the onus on the wolves and say, "Let's not do anything about what people are taking." All that approach is going to do, under the circumstances in some areas, is just take that much longer before you come to grips with your problem and the caribou populations start to increase again.

I take a fairly simplified, perhaps oversimplified, view towards predator control, and have had many arguments with my fellow workers. My rationale goes somewhat this way. If you know that the caribou are going down, and you know that the people are taking too much and the wolves are taking too much, you don't spend a lot of time arguing over whether it is nice to do the wolf in or whether someone will be offended. The way I see this kind of management issue, you go out and control the wolves, you manage them. You control them until you have hopefully reversed the situation. And when the caribou start going up again, you're not really likely to have eliminated the wolves. They'll come back again, especially if you manage them instead of attempting total elimination. And when you've got the caribou population coming up again, then you've got time to worry about all the other bits and pieces of management that we heard discussed. They are all important and all have a place in management. But my experience tells me that if you go around that circuit of argument about who is to blame and what little thing you should do there and little thing some place else, it won't be very long before there won't be anything left to argue about — the population will be down to a point that there is no hope of it coming back. So it seems to me that you recognize the complexity and you accept that there are a lot of different things involved. But you say, "Let's do something about those things that are likely to be effective right now, that will at least reverse the caribou decline." Let's go on with that.

I have a few odds and ends of things to throw in. I've heard quite a bit here about how you decide who is in and who is out with respect to harvesting resources. One discussion suggested that those who make their full living from the land should have priority over those who don't. I don't believe anyone would quarrel much with that, although when it came to talking about cutting off the sports hunter from the taking of caribou, there seemed to be less than complete agreement here. However, there are a lot of people who hobby trap. As a matter of fact, in some areas of the provinces the best trappers today are hobby trappers. Because they work all week they have the money to buy the best equip-

ment, and then they go out during off time. They are very good trappers, they take very good catches and are doing very well out of it. Now maybe they are doing it just to make extra money; maybe they are greedy; I don't know. But among the things that we have been discussing here over the last few days is a concern not only for subsistence, but also for getting country food and retaining cultural significance. There is a desire on the part of people of the north to retain some of their lifestyle and so on. So it seems to me that you have to be careful, when you are working these things out among yourselves, that you don't forget that many of the people who are working now, full-time or part-time, may still wish to have that contact back with the resources, with the land which enriches their lives. All I am saying is don't write some people off arbitrarily without considering some of these implications.

I've heard a great deal about organization and setting up user organizations and committees and so on. Dr. Solandt made a comment on his concern about committees; there is a comment that a committee is a refuge from the dreariness of labour and the loneliness of thought. In other words, if you really don't want to get down to work or do some serious thinking, form a committee. I have found the user organizations, hunters, trappers and so on, to be exceedingly valuable. I think they are very worth while and very important as a way of getting together and exchanging ideas of managing; to focus your impressions and thoughts in a way that will get results. The only comment that I want to make is that it is an attribute of the human creature that we always try to make things more complicated than necessary. No sooner do you form associations than you start getting other associations and committees to run them, and to be a link between them. Pretty soon, you have such a bureaucratic structure that it is worse than government. I simply comment this way as a note of caution. When you form these organizations, don't let them get out of hand, don't let them get too complicated. I've heard a comment here, and it is worth repeating, that organizations have a way of taking a life of their own where the objectives of the organization are no longer the objectives of the people who set them up in the first place. They soon become quite political. So all I urge is that whatever organizations you set up you make them relatively simple, make them effective and don't let them get out of hand. In other words, make them continue to be responsive to those of you who are the users.

The point was made here that many of these activities you would undertake can be socially divisive. This is something that should not be overlooked as you get into intensive management and commercialization. You can get carried away, because after all, these things have to be economic and so you have to run them in a very solid, businesslike fashion. You don't want to arrive at the point where the individual users have been pushed out because they don't have the money and can no longer enjoy some of these culturally satisfying things. This is the kind of situation that has to be watched as you move forward.

To go very quickly to my last major point, I have two or three things here but I've lumped them all together. Something that has been heard over and over again during these meetings is the matter of information, education, and communications. If there has been one beef that I have heard from the user groups over the years, and especially from Native people, it is that no one ever asks them anything, no one ever consults with them, no one ever bothers to tell them anything. All that happens is that someone comes to say, "We've got a regulation; this is what it is, and for these reasons we hope you'll go along with it." We have really failed over the years in communicating.

One of the reasons for this failure that I have observed over the years is that we don't all speak the same language, and by that I don't mean that we speak a Native language, French or English or whatever. What I mean is that we all say the same words but we mean different things. Because of our tendency to make our statements too complicated, we go away from meetings believing that there has been a communication — that there has been an exchange — but in point of fact, there are two completely different understandings of what was said. This happens altogether too frequently. Another reason there are problems, and here I have to fault the public service, is because civil servants are very busy individuals and they have a habit of flying into a community, spending an hour saying, "This is what we are doing," and away they go. When you ask them about it, they say, "Yes we communicated; yes we went to the community and spoke to them." One hour in a community is not communication. You have to go and be prepared to spend time there — as was mentioned this morning. We simply have got to get an exchange between people in the communities, the wildlife biologists and others and that is going to take time.

Biologists, for the most part these days, and game or conservation officers, are right up to their necks in paper. It is pretty optimistic to think that that is going to change. So, when you start talking about the kind of education, communication and information exchange that is necessary if you are going to get the job done, this whole question of how has got to be rethought. We can go to agriculture to look for a precedent. It was probably the agriculture extension program that made a very major difference in the way farmers performed, in the way that agriculture performed. The research information wasn't carried out to the field by the researchers as a general rule, because many of them found it impossible to communicate with the people at the farm or community level. They had people whose business it was to communicate, who understood how to communicate. Now whether that is what you need here or not, I don't know. I'm absolutely confident that you haven't got enough conservation officers and biologists even to do the job; to com-

municate and to do the work that is required on the more technical side.

I'd like to stress again the point that Bill Fuller made in his opening comments on Monday: that the biologists and the users need one another, because neither is going to survive or get anywhere alone. The biologists know a lot of facts; they have been trained to determine certain things. They understand how populations behave, about their ranges and so on. They have information that you need. But you can't go out and make regulations just out of the blue and expect people to obey them. They are going to have to be convinced that there is a reason, be convinced that they make sense to them, so that the majority of them will go along with it. You'll find in the south, as I'm sure you'll find in the north, that if you don't have the people with you you'd have to find a policeman behind every person who went out into the field to be sure that they didn't break the law. Just look at the highways where you have speed limits. If you don't have a policeman out there occasionally, of course people will very rapidly be going faster than the speed limit. But the way that you keep most of them within the speed limit is because you have told them that it makes sense and they accept it. So you are going to have to do the same thing here in handling your resources.

There is a concern about industry and the effects of industry on the land, the water and the animals. Certainly it is a very real concern. But I just want to say that in my experience, if you know what you want to do and already have your goals set and know how you want to go about it and what you have to do, you generally work very well with industry. You can go to industry when they are in the area and say this is where we are at, this is what we are doing, and this is the way we want you to behave and carry out your business. You can have a lot of success. Inevitably there will be some conflicts that will have to be resolved. But if you know what your resources are, what you want to do, and if you have clout behind you, you can insist that industry do those things that are required to allow your and their activities to go on side by side. I don't fault industry all the time. I think that we have been pretty sloppy, and I'm speaking of wildlife people now. We've been pretty sloppy in our ideas why industry might be harmful and we have been less than thorough in presenting a good case. We must communicate better.

My final point is about trust and credibility. I've heard those words spoken several times during the meeting. You simply can't deal with the problems that you have here in the NWT if there isn't trust and credibility between the managers, biologists, and users. This is a great big country and there is more than enough to be done to require everyone to participate. It is just really not going to work out the way you want it if we don't trust one another. Biologists lose credibility sometimes because even though they are sympathetic towards the things you want to do the politicians won't go along with it. Sometimes that is true, but sometimes biologists don't do a very good selling job to politicians. Politicians are influenced by what they hear and the pressures that are on them. They have to get in next time there is an election. That's part of the rationale for being in politics and you can't really accomplish much if you don't stay in long enough to get things done. So don't totally fault them. The biologists have got to have the facts and make a solid case to the politicians, the legislators. And the users have to know what it is that they want, have their house in order, and go to the legislators — the politicians — and say this is the way we feel about this, and this is what we want. If I can refer to what Jim Davis said about Alaska, when they all got on the same wave length and were all behind the caribou program, good things happened. Bob Weeden said we have to be lucky too. There's always some luck in it, but let's not take away from what happened in Alaska. They really did get into it. There was credibility and they were all behind the programs; there was trust and the caribou are coming back.

With that I will close and thank you for having me here. It's been exceedingly worth while and I will be watching the future with great interest.

Appendix IV

PARTICIPANTS

Adjun, Colin	— Coppermine
Allooloo, Titus	— Pond Inlet
Allen, Bertha	— Inuvik
Amos, Jessee	— Inuvik
Baily, Bob	— Saskatoon
Barnabe, Claire	— Ottawa
Bell, Bob	— Yellowknife
Bergman, Berny	— Yellowknife
Billing, Dan	— Yellowknife
Blondin, George	— Ft. Franklin
Bourque, Jim	— Yellowknife
Cadieux, Richard	— Yellowknife
Canadien, Albert	— Ft. Providence
Clausen, Bjarne	— Copenhagen
Collin, Don	— Montreal
Cook, Margaret	— Yellowknife
Davis, Jim	— Fairbanks
Donihee, John	— Yellowknife
Dragon, Jane	— Ft. Smith
Drobot, Alex	— Winnipeg
Eckalook, George	— Resolute Bay
Edwards, George	— Aklavik
Eecheik, Tony	— Rankin Inlet
Ekpakohak, Pat	— Holman Island
Elliot, Cam	— Yellowknife
Finley, Kerwin	— Toronto
Fuller, Bill	— Edmonton
Freeman, Milton	— Ottawa
Gamble, Bob	— Yellowknife
Gray, Paul	— Yellowknife
Gunn, Anne	— Yellowknife
Hagan, Larry	— Yellowknife
Hansen, Frank	— Inuvik
Harrison, Jim	— Ottawa
Heard, Doug	— Yellowknife
Hildes, Jack	— Winnipeg
Hubert, Ben	— Yellowknife
Ittinuar, Ollie	— Rankin Inlet
Ittinuar, Peter	— Ottawa
Jingfors, Kent	— Yellowknife
Kirwan, Syd	— Yellowknife
Kupsch, Walter	— Saskatoon
Kuptana, Roger	— Sachs Harbour
Kusugak, Mike	— Rankin Inlet
Lamothe, René	— Jean Marie River
Little, Lois	— Yellowknife
Livingston, Ron	— Yellowknife
Lloyd, Kevin	— Yellowknife
Look, Art	— Ft. Providence
MacInnes, Kay	— Yellowknife
Mair, Winston	— Victoria
Mandeville, Berna	— Hay River
Mandeville, Fred	— Hay River
McCart, Peter	— Calgary
Milligan, Ron	— Yellowknife
Monaghan, Hugh	— Yellowknife
Morin, Alex	— Hay River
Nerysoo, Richard	— Yellowknife
Norwegian, Leo	— Ft. Simpson
Poole, Peter	— Dunham P.Q.
Richardson, John	— Yellowknife
Roberts, Ken	— Hay River
Roots, Fred	— Ottawa
Schaefer, Jim	— Ft. Smith
Schaefer, Otto	— Edmonton
Schweinsburg, Ray	— Yellowknife
Scott, Patrick	— Yellowknife
Semjanovs, Roland	— Yellowknife
Simmons, Norm	— Yellowknife
Solandt, Omond	— Toronto
Sowdlooapik, Sakiasie	— Pangnirtung
Soudak, Morris	— Winnipeg
Spence, Bob	— Yellowknife
Stephenson, Bruce	— Yellowknife
Tselie, John	— Ft. Good Hope
Unger, Dave	— Edmonton
Weeden, Robert	— Fairbanks

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